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# (12) United States Patent

# Ramaswamy et al.

# (54) METHODS AND APPARATUS TO COUNT PEOPLE APPEARING IN AN IMAGE

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See application file for complete search history.

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## (57) ABSTRACT

Methods and apparatus to count people appearing in an image are disclosed. One disclosed method reduces objects appearing in a series of images to one or more blobs; for each individual image in a set of the images of the series of images, represents the one or more blobs in the individual image by one or more symbols in a histogram; and analyzes the symbols appearing in the histogram to count the people in the image.

#### 30 Claims, 16 Drawing Sheets

